From wang!elf.wang.com!ucsd.edu!info-hams-relay Sun Mar 24 01:40:28 1991 remote
from tosspot
Received: by tosspot (1.64/waf)
     via UUCP; Sun, 24 Mar 91 00:51:36 EST
     for lee
Received: from somewhere by elf.wang.com id aa29016; Sun, 24 Mar 91 1:40:27 GMT
Received: from ucsd.edu by relay1.UU.NET with SMTP
     (5.61/UUNET-shadow-mx) id AA18353; Sat, 23 Mar 91 20:09:12 -0500
Received: by ucsd.edu; id AA16384
     sendmail 5.64/UCSD-2.1-sun
     Sat, 23 Mar 91 14:38:40 -0800 for brian
Received: by ucsd.edu; id AA16361
     sendmail 5.64/UCSD-2.1-sun
     Sat, 23 Mar 91 14:38:33 -0800 for /usr/lib/sendmail -oc -odb -oQ/var/spool/
lqueue -oi -finfo-hams-relay info-hams-list
Message-Id: <9103232238.AA16361@ucsd.edu>
Date: Sat, 23 Mar 91 14:38:27 PST
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>
Reply-To: Info-Hams@ucsd.edu
Subject: Info-Hams Digest V91 #234
To: Info-Hams@ucsd.edu

Info-Hams Digest   Sat, 23 Mar 91   Volume 91 : Issue 234

Today's Topics:

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 23 Mar 91 07:26:14 GMT
From: tut.cis.ohio-state.edu!zaphod.mps.ohio-state.edu!swrinde!cs.utexas.edu!
asuvax!ncar!csn!ub!planck!meyer@ucbvax.berkeley.edu
Subject: Bicycle Power for Field Day
To: info-hams@ucsd.edu

In article <103396@unix.cis.pitt.edu> hpb@hpb.cis.pitt.edu (Harry Bloomberg)
writes:
>
>   Our ham club is considering using bicycle power for our natural power
>multiplier for Field Day this year.
>
>   1) Has anybody out there done this? I'd appreciate any comments.
>
>   2) How about suggesting some references?
>
>   Last year, we used solar power to great success. Not only did it
>work well, we made the 11 PM TV news. Alternative power sources is a
>great way to attract the media, and we're looking for a different
>"gimmick" for this year.
>
>73,
>Harry Bloomberg WA3TBL

A friend of mine and I did just this back in 1980. We built a system
around a standard 10 speed bicycle frame with a 20" wheel. We used a
alternator out of an old GM car and 2 12 volt batteries in parallel.
We were both in shape (we were active duty military at the time) and
figured that we could take turns on the pedals.

One problem that we had was that he was over 6' tall and I'm only 5'6"
with short legs and we had to make the seat quickly adjustable. The
best way to do it is to use a low power rig (about 100 watts) with
very few gadgets. We tested the system out and found that if we kept
the actual transmit time down (or used CW) we could keep the batteries
charged reasonably well. The modifiers were going to be great.

Our antenna was a multi-band dipole made out of 300 ohm TV antenna
wire. It was actually 4 dipoles in parallel. We stretched out two
pieces of 300 ohm to 40 meter half-wave length and then cut one of the
conductors on each side at 20 meter length. We did the same with the
15 and 10 meter sections. We tied them all together in parallel and
fed it with 75 ohm coax. The antenna was raised by using several
sections of TV antenna mast (the kind that is tapered at on end) guyed
by the antenna from 2 directions and nylon rope from the other 2
directions.

Then the military decided that we were going to take a nice vacation
in Sunny Saudi Arabia for a couple of months and we missed field day
:-(. Deployments mess up the best laid plans. As it turned out, my
friend got transferred to Keflavik, Iceland and I ended my hitch
before the next field day so we never got to actually run it.

Two things to note: you will need batteries because nobody can pedal
indefinately, and you want to be in good shape before you do this.
Good Luck.
--
   Thinking quickly, the IBM System Jock   # Bob Meyer N2DXN
uttered an incantation in EBCDIC and made # Calspan Advanced Tech. Center
the sign of the Terminated Fork.   # meyer%planck.uucp@acsu.buffalo.edu
   The UNIX Guru only smiled and trapped him in a recursive SED script.

Date: 23 Mar 91 13:08:04 GMT
From: usc!apple!netcom!edg@ucsd.edu
Subject: First No-code Tech?
To: info-hams@ucsd.edu

In article <andreap.669677698@s.ms.uky.edu> andreap@ms.uky.edu (Peach) writes:
>............. She was getting licensed so that she could talk
>to her husband -- not because she loves radio.

Well, yeah, I can see where it's discouraging, but it ain't all that
bad.

Consider that the first earthquake, or whatever you get in Kentucky, may
convert her to a rabid ARES volunteer. Or she may meet somebody at a
club meeting that converts her to a mode her husband doesn't even
operate.

IMHO, we'd better not start questioning people's motives, but rather,
judging them on their behavior.

Somebody recently compared ham frequencies (among commercial ones) as
the national park of the EM spectrum.

National parks are there for everyone, so long as they don't vandalize
them, not just for the serious outdoorspeople and naturalists. This
We don't keep people out of national parks just because they want to go
have a picnic with their families.

                        -edg
--

Ed Greenberg, WB2GOH/6
San Jose, CA
edg@netcom.COM

Date: 19 Mar 91 19:14:39 GMT
From: swrinde!zaphod.mps.ohio-state.edu!lavaca.uh.edu!menudo.uh.edu!lobster!
urchin!f8325.n106.z1.fidonet.org!Charles.Lafkoff@ucsd.edu
Subject: ICOM-245 Modification
To: info-hams@ucsd.edu

I've got an old ICOM-245 all mode and would like to find anyone who can help
me to modify the rig/microproceesor so that it will be able to receive from
approx. 130-170 MHz. This is an old one that was sold in the late 1970's.
Thanks, Charlie WD5GNW @ WA4EWV.TX or here.

Date: 23 Mar 91 17:25:11 GMT
From: isis!whester@uunet.uu.net
Subject: Looking for High Voltage Capacitors
To: info-hams@ucsd.edu

In article <1991Mar18.194939.1257@leland.Stanford.EDU> stankus@leland.Stanford.EDU
(John Stankus) writes:
>
>I am desparate need of some high voltage capacitors (4-6KV) 5pF.
>Since the demise of the vacuum tube nobody seems to make these anymore.
>Does anyone know of a source for these and other HI-Voltage Capacitors.
>
>
>Thanks
>
>John J. Stankus N5PEE   Dept. of Chemistry
>stankus@leland.stanford.edu   Stanford University

John, if checking the local ham swapfests and swap lists fails, then consider
making them yourself.

Look up the formula for capacitors in the ARRL handbook. You can use
small sections of sheet copper, single sided printed circuit board, or
even lids from tin cans for the plates. Use window glass to insulate
the plates...with the glass extending out from the plates to assure the
6Kv won't arc around the plates. You'll find the dielectric constant for
glass to be very good and normal thickness of window glass should give
adequate Kv ratings.

Another source for factory make caps in this range can be old television
receivers...

Try stacking six 1.5 KV rated disc ceramic caps in series with good
spacing between them. Let's see, six 30pf in series should give about
5 pf that you asked for...

Best Luck

--
Bill Hester, Ham Radio N0LAJ, Denver CO., USA | N0LAJ @ W0LJF.CO.USA.NA
Please route replies to: whester@nyx.cs.du.edu or uunet!nyx!whester
Public Access Unix @ University of Denver, Denver Colorado USA
(no official affiliation with the above university)

Date: 23 Mar 91 20:28:04 GMT
From: news-mail-gateway@ucsd.edu
Subject: MAJOR MAGNETIC STORM WARNING - LOW LATITUDE AURORAL ACTIVITY WARNING
To: info-hams@ucsd.edu

/\

POTENTIAL MAJOR GEOMAGNETIC STORM WARNING

/\

Issued: 16:00 UT, 23 March

WARNINGS ISSUED:

- POTENTIAL LOW LATITUDE AURORAL ACTIVITY WARNING
- POTENTIAL MAJOR TO SEVERE GEOMAGNETIC STORM WARNING
- POTENTIAL SATELLITE ANOMALY WARNING
- POTENTIAL ELECTRICAL GEOMAGNETIC INDUCTION WARNING
- POTENTIAL MAJOR SOLAR FLARE WARNING (PROTON)

ALERTS IN PROGRESS:

- MAJOR PROTON FLARE ALERT
- SATELLITE PROTON EVENT ALERT (2,500 PFU PROTONS IN PROGRESS AT > 10 MEV)
- POLAR CAP ABSORPTION ALERT (RIOMETER MEASUREMENTS > 5.0 DB DEVIATION).
- POLAR RADIO BLACKOUT ALERT (IN PROGRESS)

ATTENTION:

A MAJOR middle latitude geomagnetic storm is expected to begin on 24 March. Periods of severe geomagnetic storming is possible over middle latitudes, while high latitudes should experience frequent severe storm periods (K indices of 8 and 9). The cause of this predicted activity is the major proton flare of 22 March (class X9.4/3B proton flare at 22:47 UT). A high risk exists for major storming.

Satellite level protons reached event thresholds of 10 p.f.u. at 08:20 UT on 23 March and skyrocketed from there to moderately high levels of 2,500 p.f.u. thereafter. Some satellite anomalies are possible with proton levels at this intensity.

A PCA event with an accompanying polar radio blackout began at 09:31 UT on 23 March and is expected to continue for the next 24 to possibly 48 hours. Riometer measurements indicate an absorption intensity of greater than 5.0 dB's. A Forbush decrease is expected with the magnetic storm.

An interplanetary shockwave is expected to impact and produce a magnetic SSC sometime between approximately 09:00 UT and 18:00 UT on 24 March. Minor storm level fluctuations are expected to begin shortly thereafter, increasing to major storm levels by the end of the UT day on 24 March. Significant storming is possible. The flare which is producing this event was significantly more powerful and radio-rich than the flare which produced the previous storm warning a few weeks ago. The probability for magnetic storming from this event is much higher than the last warning, due primarily to the sensitive position of the flare on the sun.

Geomagnetic induction will be possible if this storm materializes as expected. Significant magnetic perturbations are forecasted for all latitudes. Higher latitudes (middle northern and high latitudes) will likely experience the most intense storming. Although it is difficult to predict actual expected magnetic activity levels, we are predicting a middle latitude magnetic A-index of 40 for 24 Mar, and 50 or greater for 25 March. There is a good possibility middle latitude A-indices could surpass 75 on 25 March. Magnetic K-indices for middle latitudes are predicted to reach levels of 6 and 7 (a level of 9 is the top of the scale). High latitudes will probably see values of 8 and 9.

A LOW LATITUDE AURORAL ACTIVITY WARNING has been issued. Auroral activity will be high to very high over high latitudes, and high over middle latitudes. Significant southward migration of the auroral zone is possible with this event. Low latitude auroral activity is a real possibility. If storm intensities surpass levels expected, auroral activity could possibly be seen as far south as Florida.

Significant HF disruptions are possible (if not likely) over all

latitudes. Polar regions are already experiencing blackout conditions due to the proton event. High absorption could produce near blackout conditions on many middle latitude paths. Strong fading and distortion is expected for low and middle latitudes.

There is a high probability for significant VHF bistatic auroral backscatter communications on 24 and 25 March. Low latitude auroral backscatter communications is also expected to be possible over many areas. Middle latitudes will experience the best opportunities for auroral backscatter communications.

The most intense terrestrial activity is expected to last between 12 and 24 hours, with active to very active geomagnetic post-storm activity persisting until 26 March (barring any further major solar flaring).

PLEASE SEND ANY REPORTS OF AURORAL ACTIVITY, AURORAL BACKSCATTER COMMUNICATIONS OR SIGNIFICANT HF RADIO DEGRADATION TO: OLER@HG.ULETH.CA
PLEASE INCLUDE THE LOCAL AND UT TIME OF OBSERVATION, GEOGRAPHICAL LOCATION (LATITUDE/LONGITUDE) AND A BRIEF DESCRIPTION OF THE PHENOMENA OBSERVED.

/\

Date: 23 Mar 91 08:32:38 GMT
From: news-mail-gateway@ucsd.edu
Subject: MAJOR SOLAR FLARE ALERT #2 - 22 MARCH - HIGH IMPACTS POSSIBLE
To: info-hams@ucsd.edu

-- MAJOR SOLAR FLARE ALERT --

MARCH 22, 1991
Alert #2

Flare Event Summary
** HIGH TERRESTRIAL IMPACT IS POSSIBLE **

MAJOR ENERGETIC EVENT SUMMARY

A large major X-class flare ripped out of Region 6555 late today. The event began at 22:42 UT, peaked at 22:47 UT and ended at 23:10 UT on 22 March. The flare attained an intense class X9.4/3B rating and was located

at a S26E28. Radio emissions were very strong in the 245 MHz and 10 cm bands. The 245 MHz emission hit 260,000 s.f.u.. The 10 cm burst peaked at 36,000 s.f.u.. Moderate intensity Type II and IV sweeps were observed with this event. The integrated x-ray flux was fairly high, rated at 0.560 Joules per meter^2. A moderate intensity proton event is expected anytime now. A proton enhancement has been observed over the past hour. Solar protons are expected to peak at levels near 80 p.f.u.. A Polar Cap Absorption (PCA) event is expected to begin at anytime. A TOTAL POLAR RADIO SIGNAL BLACKOUT IS EXPECTED ANYTIME. The duration of the blackout is expected to be approximately 24 hours.

POTENTIAL TERRESTRIAL IMPACT ASSESSMENT

Further consultation and analysis will be required before an official terrestrial impact will be released. This terrestrial impact forecast will be issued after 17:00 UT on 23 March.

Preliminary results suggest that a high probability exists for a MAJOR middle-latitude geomagnetic storm, beginning sometime on 24 March. A more specific time period will be given with the 24 March bulletin (or warning). This major flare was significant and has the potential of producing large terrestrial impacts. More detailed information regarding the predicted state of the geomagnetic field will be given later today.

Region 6555 has been magnetically analyzed in greater detail now. This region sports a beta-gamma-delta magnetic configuration. The internal structure is associated with strong fields, high gradients and high shear. The spots are contorted in an unstable configuration which will most likely produce further major flaring.

A POTENTIAL PROTON FLARE WARNING HAS BEEN ISSUED, AS HAS A PROTON FLARE ALERT associated with this latest major event. A POLAR RADIO BLACKOUT WARNING IS IN PROGRESS. A POTENTIAL PCA ACTIVITY WARNING IS IN PROGRESS. The POTENTIAL SATELLITE PROTON EVENT WARNING CONTINUES.

A magnetic storm warning will likely be issued later this UT day.

** End of Alert **

Date: 23 Mar 91 16:50:44 GMT
From: swrinde!cs.utexas.edu!ut-emx!ccwf.cc.utexas.edu@ucsd.edu
Subject: Modifying CB Radio
To: info-hams@ucsd.edu

Hi. I have an old Realistic "Navaho" 23 channel CB rig that I'd like to modify for use on 10 meters. It has a "delta tune" knob with +, centered, and - positions; this is NOT a sideband control, is it? In the absence of sideband, I'd like to use the rig for CW work; I think I can do this by replacing the mike with a key in an appropriate way, since there would then be no amplitude modulation (maybe I need to apply a small voltage to the key as well, to get a nonzero amplitude).

This unit is all crystals, but I don't see any crystals that are cut for the CB frequencies. Some look like first subharmonics (14.95 MHz, 14.96, etc.), while some are at other frequencies (23.39 MHz, 22.34, etc.). What's going on here? How to I go about moving this units channels into the 10 meter CW band? Any help will be greatly appreciated.

Thanks,
Kip Ingram
N5RYK

Date: 22 Mar 91 20:08:18 GMT
From: hpl-opus!hpnmdla!alanb@hplabs.hpl.hp.com
Subject: mods for HR2600
To: info-hams@ucsd.edu

In rec.ham-radio, faunt@CISCO.COM (Doug Faunt N6TQS 415-688-8269) writes:

>Look in the April 1991 issue of 73, page 59, middle of right hand
>side. ChipSwitch, 4773 Sonoma Hwy., Suite 132, Santa Rosa CA
>95409-4269, is selling a replacement CPU for 2510's and 2600's for
>$60. I don't know if they're real or not. Maybe one of the
>info-hams/rec.ham-radio readers can check the location out for you.

>73, doug

Yeah, they're real. One of the engineers here is the brother of
the fellow who sells them.

AL N1AL

Date: 23 Mar 91 22:08:33 GMT
From: news-mail-gateway@ucsd.edu
Subject: NASA Prediction Bulletins
To: info-hams@ucsd.edu

The most current orbital elements from the NASA Prediction Bulletins are

carried on the Celestial BBS, (513) 427-0674, and are updated several times weekly. Documentation and tracking software are also available on this system. As a service to the satellite user community, the most current of these elements are uploaded weekly to sci.space. This week's elements are provided below. The Celestial BBS may be accessed 24 hours/day at 300, 1200, or 2400 baud using 8 data bits, 1 stop bit, no parity.

- Current NASA Prediction Bulletins #825 -

```
Alouette 1
1 00424U 62B-A  1 91 77.28636377  .00000469  00000-0  54965-3 0  3913
2 00424  80.4671  15.8220 0022404 290.8768  68.9980 13.67485241420151
ATS 3
1 03029U 67111  A 91 77.85602545 -.00000076  00000-0  99999-4 0  5145
2 03029  13.5418  18.8779 0019697 228.3957 131.4383  1.00272997 85548
Cosmos 398
1 04966U 71 16  A 91 80.40097505  .00091560  19493-4  46908-3 0  4488
2 04966  51.5244 238.9830 2080306 328.2616  20.7784 11.47438051622853
Starlette
1 07646U 75010  A 91 69.72668461 -.00000066  00000-0 -43172-5 0  1999
2 07646  49.8256 186.7678 0206126 351.3539   8.3827 13.82150684812645
LAGEOS
1 08820U 76039  A 91 78.08306944  .00000005  00000-0  99999-4 0  2089
2 08820 109.8392  89.3002 0044390 180.1243 179.9929  6.38664237 91497
GOES 2
1 10061U 77048  A 91 73.85571327 -.00000259  00000-0  99999-4 0  5679
2 10061   8.7002  60.4064 0003735 339.1062  20.9829  1.00266029 51720
IUE
1 10637U 78012  A 91 75.97482089 -.00000181  00000-0  79862-4 0  2152
2 10637  32.7311 114.4783 1406225   0.8450 359.5540  1.00294217  9209
GPS-0001
1 10684U 78020  A 91 78.17149122  .00000004  00000-0  99999-4 0  6066
2 10684  63.8799  81.0258 0127748 200.8893 158.5967  2.00554184 81364
GPS-0002
1 10893U 78 47  A 91 78.66980484 -.00000022  00000-0  99999-4 0  3243
2 10893  64.2448 321.8794 0172095  23.8165 337.1375  2.00535415 94191
GOES 3
1 10953U 78062  A 91 75.18784986  .00000090  00000-0  99999-4 0   533
2 10953   7.5973  63.3168 0003190 104.1918 255.8528  1.00264070  7647
SeaSat 1
1 10967U 78064  A 91 79.04694566  .00001994  00000-0  72278-3 0  4801
2 10967 108.0261 169.8032 0003784 233.3685 126.7164 14.36333146666058
GPS-0003
1 11054U 78093  A 91 79.41350923 -.00000021  00000-0  99999-4 0  3583
2 11054  63.7887 318.0172 0063602 117.4012 243.3566  2.00571722 91226
Nimbus 7
1 11080U 78098  A 91 72.27330663  .00000303  00000-0  30407-3 0  7363
2 11080  99.1729 335.8414 0009780  89.1865 271.0430 13.83516130625245
GPS-0004
```

```
1 11141U 78112  A 91 72.05824366  .00000004  00000-0  99999-4 0  1399
2 11141  63.8301  81.0896 0035248 112.8753 248.1001  2.00547655 89773
GPS-0005
1 11690U 80 11  A 91 72.19605296  .00000005  00000-0  99999-4 0   999
2 11690  64.3219  83.3692 0121829 203.1934 156.3050  2.00552812 95638
GPS-0006
1 11783U 80 32  A 91 79.97100747 -.00000021  00000-0  99999-4 0  3823
2 11783  63.5665 317.4823 0152768  58.1912 303.2175  2.00574037 79876
GOES 5
1 12472U 81049  A 91 76.10216687  .00000130  00000-0  99999-4 0   604
2 12472   4.1468  72.3886 0002510 276.6107  83.6989  1.00243756 34965
Cosmos 1383
1 13301U 82 66  A 91 79.09054448  .00000195  00000-0  21626-3 0  6891
2 13301  82.9306  98.5807 0028531 117.9462 242.4581 13.67892273435392
LandSat 4
1 13367U 82 72  A 91 79.65551792  .00002616  00000-0  59019-3 0  7096
2 13367  98.1253 141.1696 0003628  19.3537 340.7800 14.57133413461561
IRAS
1 13777U 83  4  A 91 76.01109774  .00000258  00000-0  20290-3 0  9106
2 13777  99.0190 273.4317 0013713 355.8703   4.2330 13.98904942 85080
Cosmos 1447
1 13916U 83 21  A 91 63.80866909  .00000310  00000-0  31599-3 0  7845
2 13916  82.9376 179.3559 0038025 131.5822 228.8616 13.74111593398464
TDRS 1
1 13969U 83 26  B 91 78.16126145  .00000126  00000-0  99999-4 0  2832
2 13969   5.1378  63.2525 0003669 313.4092  46.7455  1.00268152  2102
GOES 6
1 14050U 83 41  A 91 80.09186202  .00000116  00000-0  99999-4 0  3869
2 14050   2.9221  75.3725 0015047 195.4405 164.8494  1.00275645   918
OSCAR 10
1 14129U 83 58  B 91 79.85001045 -.00000029  00000-0  99999-4 0  6415
2 14129  25.7740 154.7577 6001788 226.7218  64.5707  2.05882404 30430
GPS-0008
1 14189U 83 72  A 91 69.43290841  .00000003  00000-0  99999-4 0  9025
2 14189  63.5029  79.5234 0144230 224.5863 134.2890  2.00568707 56108
LandSat 5
1 14780U 84 21  A 91 79.68955824  .00000428  00000-0  99999-4 0  5548
2 14780  98.2467 141.1288 0000752 331.0906  29.0301 14.57078448374983
UoSat 2
1 14781U 84 21  B 91 80.56747138  .00004074  00000-0  74292-3 0  9380
2 14781  97.9105 128.5928 0013355  86.0295 274.2504 14.66481916376608
GPS-0009
1 15039U 84 59  A 91 77.08462889  .00000002  00000-0  99999-4 0  1727
2 15039  63.2578  78.3973 0028470 227.3026 132.4810  2.00565776 49539
Cosmos 1574
1 15055U 84 62  A 91 79.83062904  .00000289  00000-0  29896-3 0   362
2 15055  82.9573 218.3517 0026113 274.8028  85.0146 13.73427240338048
GPS-0010
```

1 15271U 84 97 A 91 76.53106033 -.00000021 00000-0 99999-4 0   150
2 15271 63.0775 317.0100 0112467 331.8308 27.6359 2.00564132 46639
Cosmos 1602
1 15331U 84105 A 91 80.56377174 .00005987 00000-0 78845-3 0 5023
2 15331 82.5327 103.5722 0023820 139.7082 220.5914 14.79818537349087
NOAA 9
1 15427U 84123 A 91 78.77320874 .00001158 00000-0 64309-3 0 7145
2 15427 99.1733 90.1381 0014572 319.0243 40.9831 14.12889829322897
GPS-0011
1 16129U 85 93 A 91 69.76845257 .00000004 00000-0 99999-4 0 7321
2 16129 64.0208 79.8325 0122796 148.0093 212.7912 2.00564617 39701
Mir
1 16609U 86 17 A 91 80.39609845 .00081391 00000-0 84758-3 0 3278
2 16609 51.6085 12.6629 0016335 86.8260 273.4468 15.63683273291418
SPOT 1
1 16613U 86 19 A 91 79.70146042 .00001287 00000-0 62213-3 0 2652
2 16613 98.7027 155.1458 0001690 98.7994 261.3378 14.20024544103171
Cosmos 1766
1 16881U 86 55 A 91 78.28880235 .00000755 00000-0 99999-4 0 3630
2 16881 82.5331 164.4195 0020477 169.1765 191.0013 14.79166138249795
EGP
1 16908U 86 61 A 91 79.36376868 -.00000025 00000-0 99999-4 0 3427
2 16908 50.0101 126.9583 0011374 178.0562 182.0318 12.44393283209241
NOAA 10
1 16969U 86 73 A 91 80.86282119 .00001514 00000-0 67517-3 0 5592
2 16969 98.5717 107.2613 0013831 177.1642 182.9618 14.23990851234123
MOS-1
1 17527U 87 18 A 91 75.07091457 .00000787 00000-0 61100-3 0 7666
2 17527 99.0717 148.7284 0000984 107.9397 252.1869 13.94874370207163
GOES 7
1 17561U 87 22 A 91 79.80530707 -.00000045 00000-0 99999-4 0 7408
2 17561   0.0171 260.9831 0006917 132.9380 326.0989 1.00271708 8347
Kvant-1
1 17845U 87 30 A 91 80.90737955 .00067658 00000-0 70274-3 0 5076
2 17845 51.5948 10.0713 0018536 97.7785 262.6705 15.63774849 26221
DMSP B5D2-3
1 18123U 87 53 A 91 79.83006488 .00001396 00000-0 74790-3 0 8797
2 18123 98.8144 271.7286 0014178 319.4927 40.5197 14.14428428193502
RS-10/11
1 18129U 87 54 A 91 80.92254548 .00000423 00000-0 45399-3 0 5608
2 18129 82.9245 123.3498 0013445 70.9300 289.3318 13.72161780187623
Meteor 2-16
1 18312U 87 68 A 91 79.41028299 .00000204 00000-0 17510-3 0 6142
2 18312 82.5514 71.3577 0011395 190.9347 169.1573 13.83747473181182
Meteor 2-17
1 18820U 88 5 A 91 79.64751892 .00000454 00000-0 39552-3 0 4634
2 18820 82.5451 130.6980 0015117 270.9102 89.0325 13.84457443158430
DMSP B5D2-4

```
1 18822U 88  6  A 91 79.87372354  .00001640  00000-0  76095-3 0  8156
2 18822  98.6074 317.6599 0006295 181.1811 178.9353 14.21856657162134
Glonass 34
1 19163U 88 43  A 91 80.47845973  .00000020  00000-0  99999-4 0  1980
2 19163  64.9161 149.8913 0007107 197.1056 162.9340  2.13102584 22058
Glonass 36
1 19165U 88 43  C 91 80.06610696  .00000020  00000-0  99999-4 0  1967
2 19165  64.8994 149.9028 0004530 327.1884  32.8570  2.13102913 22047
AO-13
1 19216U 88 51  B 91 65.03461838 -.00000020  00000-0  99999-4 0  2406
2 19216  56.8208 107.0310 7134717 248.7854  25.7533  2.09700788 20895
OKEAN 1
1 19274U 88 56  A 91 79.82850534  .00003864  00000-0  52581-3 0   683
2 19274  82.5116 261.7146 0020628 302.6994  57.2231 14.78392461145775
Meteor 3-2
1 19336U 88 64  A 91 79.51407238  .00000049  00000-0  10968-3 0  7149
2 19336  82.5407  81.9375 0017539 348.1699  11.9013 13.16915477127322
Glonass 39
1 19503U 88 85  C 91 80.08579552 -.00000018  00000-0  99999-4 0  1155
2 19503  65.4460  29.2513 0004635 202.3422 157.6325  2.13103651 19539
NOAA 11
1 19531U 88 89  A 91 79.78009085  .00001584  00000-0  88562-3 0  4709
2 19531  99.0195  33.9638 0011135 221.9738 138.0636 14.12003278127992
TDRS 2
1 19548U 88 91  B 91 76.99844941  .00000113  00000-0  99999-4 0  2340
2 19548   0.7936  80.3119 0002824 288.6783 351.0985  1.00277359  7668
Glonass 40
1 19749U 89  1  A 91 80.12719821  .00000020  00000-0  99999-4 0  9022
2 19749  64.8617 149.5648 0006611 273.5456  86.4478  2.13102003 17060
Glonass 41
1 19750U 89  1  B 91 80.65455305  .00000020  00000-0  99999-4 0  9565
2 19750  64.8953 149.5810 0007220 253.3623 106.6215  2.13102200 17079
GPS BII-01
1 19802U 89 13  A 91 58.17527061  .00000017  00000-0  99999-4 0  2319
2 19802  55.0455 187.3559 0050904 163.2354 196.8890  2.00558153 14865
Akebono
1 19822U 89 16  A 91 77.15950443  .00030274  00000-0  17588-2 0  9628
2 19822  75.0737 103.0852 4107596  44.8053 341.9191  7.24840142 19480
Meteor 2-18
1 19851U 89 18  A 91 79.83653964  .00000521  00000-0  45821-3 0  4154
2 19851  82.5227   8.0282 0014161 316.2938  43.7108 13.84086483103830
MOP-1
1 19876U 89 20  B 91 75.51745988  .00000024  00000-0  99999-4 0  1828
2 19876   0.3174  51.0207 0001591 304.5416   4.4358  1.00271682  3398
TDRS 3
1 19883U 89 21  B 91 74.63397740 -.00000237  00000-0  99999-4 0  2332
2 19883   0.8223  79.6338 0003135 292.2952 348.0983  1.00264151 77611
GPS BII-02
```

1 20061U 89 44 A 91 58.00437706 -.00000034 00000-0 99999-4 0 2332
2 20061 54.8640   5.4895 0089842 183.4176 176.5173 2.00566400 12602
Nadezhda 1
1 20103U 89 50 A 91 79.45876734 .00000252 00000-0 25761-3 0 3108
2 20103 82.9568 81.3576 0038277 351.9105   8.1440 13.73660776 85643
GPS BII-03
1 20185U 89 64 A 91 57.34599602 .00000016 00000-0 99999-4 0 1766
2 20185 54.8906 188.1900 0021289 164.8064 195.2144 2.00568043 11161
GPS BII-04
1 20302U 89 85 A 91 41.91577973 -.00000024 00000-0 99999-4 0 1785
2 20302 54.4598 307.3315 0032510 329.9999 29.8633 2.00556091 9656
Meteor 3-3
1 20305U 89 86 A 91 75.87769420 .00000043 00000-0 99999-4 0 3266
2 20305 82.5502 25.6640 0016711 15.4525 344.7104 13.15942304 66811
COBE
1 20322U 89 89 A 91 77.93552702 .00000734 00000-0 49570-3 0 2603
2 20322 99.0202 90.6497 0008215 329.9769 30.0924 14.03014309 68017
Kvant-2
1 20335U 89 93 A 91 80.97128651 .00067432 00000-0 70274-3 0 6081
2 20335 51.6107   9.7544 0015814 86.7348 273.6612 15.63752611 75162
GPS BII-05
1 20361U 89 97 A 91 79.32050943 .00000013 00000-0 99999-4 0 1295
2 20361 55.0295 129.4051 0062497 59.9825 300.8822 2.00584606 9269
SPOT 2
1 20436U 90 5 A 91 79.73699360 .00001398 00000-0 67473-3 0 5029
2 20436 98.7042 155.2593 0000591 86.6808 273.4428 14.20043742 59997
UO-14
1 20437U 90 5 B 91 76.22312375 .00001204 00000-0 49156-3 0 3155
2 20437 98.6755 156.2220 0011872 74.2200 286.0282 14.28968311 59858
UO-15
1 20438U 90 5 C 91 65.23854784 .00000807 00000-0 33759-3 0 1978
2 20438 98.6813 145.2249 0010415 104.9447 255.2888 14.28581408 58272
PACSAT
1 20439U 90 5 D 91 79.69465718 .00001189 00000-0 48490-3 0 2073
2 20439 98.6775 159.9469 0012678 66.7370 293.5149 14.29069849 60357
DO-17
1 20440U 90 5 E 91 76.10931864 .00001269 00000-0 51573-3 0 2073
2 20440 98.6775 156.4138 0012859 77.3705 282.8914 14.29131967 59849
WO-18
1 20441U 90 5 F 91 79.23298956 .00001192 00000-0 48479-3 0 2064
2 20441 98.6746 159.5666 0013290 69.9197 290.3421 14.29201795 60295
LO-19
1 20442U 90 5 G 91 80.54226241 .00001190 00000-0 48329-3 0 2083
2 20442 98.6770 160.9193 0013617 64.6497 295.6092 14.29280785 60481
GPS BII-06
1 20452U 90 8 A 91 67.75229359 .00000004 00000-0 99999-4 0 1530
2 20452 54.3982 245.2075 0046174 52.4825 307.8626 2.00554625 8154
MOS-1B

1 20478U 90 13 A 91 80.19745742 -.00000004 00000-0 99999-5 0 5228
2 20478 99.1592 153.8052 0000399   4.7574 355.3451 13.94849686 56757
DEBUT
1 20479U 90 13 B 91 69.51316501 .00000031 00000-0 97835-4 0 1893
2 20479 99.0193 70.4245 0540988 165.0177 196.7681 12.83171893 50903
FO-20
1 20480U 90 13 C 91 79.96640198 .00000086 00000-0 24320-3 0 1828
2 20480 99.0228 78.8937 0541325 141.4000 222.7127 12.83177729 52241
MOS-1B R/B
1 20491U 90 13 D 91 78.53192437 .00000200 00000-0 42320-3 0 2087
2 20491 99.0183 89.0858 0471212 105.7775 259.5781 13.02816519 52252
LACE
1 20496U 90 15 A 91 80.56302367 .00017642 00000-0 92594-3 0 4656
2 20496 43.0952 234.3506 0019630 294.7232 65.1575 15.15297085 60601
RME
1 20497U 90 15 B 91 80.53458908 .00035154 00000-0 71962-3 0 4987
2 20497 43.0977 144.2549 0020234   7.7112 352.4072 15.45259447 61592
Nadezhda 2
1 20508U 90 17 A 91 79.44636160 .00000278 00000-0 28566-3 0 2651
2 20508 82.9536 216.1889 0043598 298.5692 61.1093 13.73283487 52929
OKEAN 2
1 20510U 90 18 A 91 79.81345506 .00005663 00000-0 84713-3 0 4377
2 20510 82.5227 202.7508 0020690 94.9959 265.3650 14.74432811 56814
INTELSAT-6
1 20523U 90 21 A 91 62.01325021 .00008107 00000-0 57046-3 0 4497
2 20523 28.3339   6.7184 0014890 76.4736 283.7514 15.03209790 53423
GPS BII-07
1 20533U 90 25 A 91 79.13113608 -.00000034 00000-0 99999-4 0 1391
2 20533 55.1904   4.8054 0034342 96.1770 264.2227 2.00566808 7159
PegSat
1 20546U 90 28 A 91 80.24279378 .00031184 00000-0 16523-2 0 4650
2 20546 94.1441   3.1126 0139239 52.9666 308.4379 15.07222323 51700
HST
1 20580U   91 79.79198155 .00009941 00000-0 10743-2 0 4036
2 20580 28.4698 287.2797 0005764 120.5920 239.5232 14.86808872 49143
Glonass 44
1 20619U 90 45 A 91 80.49737613 -.00000018 00000-0 99999-5 0 4102
2 20619 65.0458 29.4320 0023005 218.6516 141.1796 2.13103043 6537
Glonass 45
1 20620U 90 45 B 91 80.14597944 -.00000018 00000-0 99999-4 0 4241
2 20620 65.0414 29.4448 0008068 23.0075 337.0112 2.13103262 6533
Glonass 46
1 20621U 90 45 C 91 80.20480578 -.00000018 00000-0 99999-4 0 3613
2 20621 65.0542 29.4642 0012162 210.8175 149.1008 2.13102739 6533
Kristall
1 20635U 90 48 A 91 80.97128251 .00067430 00000-0 70274-3 0 4088
2 20635 51.6107   9.7544 0015813 86.7313 273.6422 15.63752602 46040
ROSAT

```
1 20638U 90 49  A 91 80.87985926  .00007818  00000-0  63935-3 0  2135
2 20638  52.9888 256.6268 0016042  95.8123 264.4756 15.00112900 43928
Meteor 2-19
1 20670U 90 57  A 91 79.48890829  .00000188  00000-0  15948-3 0  1618
2 20670  82.5424  69.3384 0014406 231.0261 128.9618 13.83924402 36735
CRRES
1 20712U 90 65  A 91 79.90087398  .00000488  00000-0  50982-3 0  1777
2 20712  18.0065 309.1856 7121047  22.2756 357.3871  2.44106456  5823
GPS BII-08
1 20724U 90 68  A 91 55.54435681  .00000016  00000-0  99999-4 0   845
2 20724  54.6996 186.1883 0096447 122.6748 238.2165  2.00563932  4103
Feng Yun1-2
1 20788U 90 81  A 91 80.17189190 -.00007562  00000-0 -50392-2 0  1082
2 20788  98.9476 115.4877 0015985  63.9031 296.3780 14.01069413 27882
Meteor 2-20
1 20826U 90 86  A 91 79.82936476  .00000459  00000-0  40813-3 0  1148
2 20826  82.5211   8.1479 0013947 122.5678 237.6849 13.83297106 23995
GPS BII-09
1 20830U 90 88  A 91 53.08841352  .00000013  00000-0  99999-4 0   856
2 20830  54.9030 128.6742 0075781 116.1874 244.6526  2.00566684  3135
GPS BII-10
1 20959U 90103  A 91 76.43064871  .00000017  00000-0  99999-4 0   262
2 20959  54.9591 186.9802 0045402 213.8318 146.2541  2.00567535  2193
DMSP B5D2-5
1 20978U 90105  A 91 80.94154282  .00054205  00000-0  19816-1 0   919
2 20978  98.8448 116.2451 0081670  35.7056 324.9581 14.30760830 15771
Soyuz TM-11
1 20981U 90107  A 91 80.90738265  .00067468  00000-0  70274-3 0  1137
2 20981  51.6107  10.0757 0016651  87.9974 272.4090 15.63748032 17141
Glonass 47
1 21006U 90110  A 91 80.24394901  .00000020  00000-0  99999-4 0   969
2 21006  64.8377 148.9778 0062075 186.6309 173.3588  2.13102310  2216
Glonass 48
1 21007U 90110  B 91 80.42050416  .00000020  00000-0  99999-4 0  1084
2 21007  64.8598 148.9975 0039234 180.9054 179.1626  2.13100456  2212
Glonass 49
1 21008U 90110  C 91 80.30331692  .00000020  00000-0  99999-4 0   922
2 21008  64.8408 148.9894 0010393 290.5039  69.4521  2.13100179  2216
Progress M6
1 21053U 91  2  A 91 74.70616468  .00040308  00000-0  33212-3 0   677
2 21053  51.6039  41.4356 0037646 101.2253 259.2970 15.68992764290529
INFORMTR-1
1 21087U          91 80.15712736  .00000223  00000-0  22429-3 0   257
2 21087  82.9436 298.8691 0035730 142.0202 218.3483 13.74354520  6935
Cosmos 2123
1 21089U 91  7  A 91 79.71937259  .00000255  00000-0  26067-3 0   274
2 21089  82.9296 169.6785 0029384 162.4720 197.7462 13.73873182  5990
1991 012D
```

1 21121U 91 12 D 91 79.77759887 -.00000019 00000-0 99805-3 0   372
2 21121 62.7148 319.7055 7392207 280.2338 11.0682 2.05525238   687
1991 010E
1 21122U 91 10 E 91 78.54292333 .00001495 00000-0 17380-2 0   198
2 21122 47.3572 272.1668 7260320   8.5940 359.0736 2.26393493   741
1991 010F
1 21129U 91 10 F 91 75.10176537 .00000020 00000-0 99999-4 0   169
2 21129   2.2915 282.2710 0018212 37.9509 321.5675 1.00097263   237
Cosmos 2135
1 21130U 91 13 A 91 79.48842059 .00000107 00000-0 99999-4 0   131
2 21130 82.8240 239.9168 0065037 215.9908 143.6871 13.77542150 3071
1991 013B
1 21131U 91 13 B 91 67.85471756 .00000242 00000-0 22230-3 0   90
2 21131 82.8224 248.6957 0059357 244.3807 115.1333 13.79128579 1475
Raduga 27
1 21132U 91 14 A 91 78.84779788 -.00000317 00000-0 99999-4 0   214
2 21132   1.4653 251.6057 0002612 335.2901 23.8525 1.00260123   224
1991 014D
1 21135U 91 14 D 91 74.48477388 -.00000103 00000-0 99999-4 0   60
2 21135   1.5011 250.8207 0022261 344.9318 13.9890 1.03436175   180
ASTRA 1-B
1 21139U 91 15 A 91 76.50770888 .00000123 00000-0 99999-4 0   118
2 21139   0.1917 294.3750 0020112 37.2407 28.2744 1.01108266   63
MOP-2
1 21140U 91 15 B 91 79.36399246 .00000081 00000-0 99999-4 0   171
2 21140   1.1568 297.9391 0045862 30.1592 329.7818 1.00940579   144
1991 015C
1 21141U 91 15 C 91 78.59420046 .00031384 00000-0 90344-2 0   217
2 21141   6.9715 323.3148 7300546 190.4159 134.0282 2.25660825   351
1991 015D
1 21142U 91 15 D 91 77.02935872 .00121176 00000-0 22631-1 0   170
2 21142   7.0356 322.7829 7270625 190.4773 133.6715 2.30385298   327
Cosmos 2136
1 21143U 91 16 A 91 79.06154793 .00291944 40811-4 13822-3 0   345
2 21143 62.8479 292.8576 0034428 108.8787 251.6612 16.19681410 2156
1991 018A
1 21149U 91 18 A 91 79.31317905 -.00000114 00000-0 99999-4 0   77
2 21149   2.8287 300.9700 0045681 196.4364 158.4485 0.99432155   151
1991 018B
1 21150U 91 18 B 91 79.79968865 .00017648 00000-0 12974-2 0   95
2 21150 24.9674 252.2517 0530146 277.8727 76.1979 14.30552041 1696
1991 018C
1 21151U 91 18 C 91 73.10362640 .00059200 00000-0 75036-2 0   104
2 21151 24.2144 326.6542 7339464 189.2262 143.2853 2.22645047   124
1991 019A
1 21152U 91 19 A 91 79.88515693 .00000006 00000-0 00000 0 0   101
2 21152 82.9235 124.2876 0040426 269.7872 89.8650 13.73318277 1110
1991 019B

```
1 21153U 91 19  B 91 76.96542189  .00000006  00000-0  00000 0 0    52
2 21153  82.9242 126.4430 0033691 267.4316  91.8855 13.74712918   719
1991 020A
1 21188U 91 20  A 91 80.71102730  .00053096  00000-0  52107-3 0   106
2 21188  51.6161  11.0658 0020518 103.6183 231.4013 15.65254868   353
1991 020B
1 21189U 91 20  B 91 79.39390433  .10844425  59694-4  65376-3 0    89
2 21189  51.6546  18.0983 0007175 113.4456 247.0980 16.41392014   149
1991 021A
1 21190U 91 21  A 91 80.81391181  .00027868  00000-0  90405-3 0    78
2 21190  65.8459   8.5561 0033389 340.8290  19.1779 15.31343294   345
1991 021B
1 21191U 91 21  B 91 79.18066841  .00099963  00000-0  30663-2 0    51
2 21191  65.8490  13.7351 0037826 346.1899  13.8055 15.32496951    90
--
Dr TS Kelso                           Assistant Professor of Space Operations
tkelso@blackbird.afit.af.mil          Air Force Institute of Technology

------------------------------

Date: 23 Mar 91 16:30:34 GMT
From: swrinde!zaphod.mps.ohio-state.edu!magnus.acs.ohio-state.edu!tut.cis.ohio-
state.edu!n8emr!@ucsd.edu
Subject: PROPAGATION FORECAST BULLETIN 10  ARLP010
To: info-hams@ucsd.edu

============================================================
|    Automatic relayed from packet radio via               |
| N8EMR's Ham BBS, 614-895-2553 1200/2400/9600/V.32/PEP/MNP5 |
============================================================

ZCZC AP66
QST DE W1AW
PROPAGATION FORECAST BULLETIN 10  ARLP010
FROM TAD COOK, KT7H, SEATTLE, WA
MARCH 23, 1991
RELAYED BY KB8NW/OBS & BARF-80 BBS
TO ALL RADIO AMATEURS

During the past week we saw more unstable conditions with continuing
solar flare activity.  The solar flux rose to 276 on March 18, which
was the highest level so far this month.  Propagation was mostly
good with partial radio blackouts on occasion due to solar flares.
Several times the K index rose to 4, indicating unstable geomagnetic
conditions.

During the forecast week we should see a tapering off of the solar
flux from the 250 level down to around 210.  There are a couple of
```

active regions on the Sun that are capable of at least moderate activity, and perhaps some major flares as well. Check the K index on WWV at 18 minutes after the hour. It is updated every 3 hours starting with the posting of the new day's solar flux at 1818 UTC. If the K index is less than three, shortwave propagation should be quite good. K indices of three and rising indicate disturbed conditions, especially on polar paths.

The northern hemisphere is moving into Spring which normally means better propagation with longer worldwide openings. Barring any big flare activity, we can expect generally better conditions with the change of season.

American sunspot numbers for March 7 through 13 were 123, 126, 113, 132, 144, 158 and 141 respectively, with a mean figure of 133.9. For the week of March 14 through 20, they were 148, 163, 183, 166, 162, 157 and 155, with a mean of 162.

Date: 21 Mar 91 08:56:00 GMT
From: orion.oac.uci.edu!ucivax!jarthur!elroy.jpl.nasa.gov!swrinde!cs.utexas.edu!execu!sequoia!uudell!bigtex!texsun!letni!rwsys!kf5iw!k5qwb!lrk@ucsd.edu
Subject: Reading Presence of Signal from ICOM R7000 Serial Port?
To: info-hams@ucsd.edu

toppin@melpar.UUCP (Doug Toppin) writes:

> I have an ICOM R7000 with a serial interface that I am writing
> Unix/C software for and have run into a problem.
> I am able to command it to tune without any trouble but have
> been unable to determine if the receiver has found a signal.
> There appears to be no documented command that asks the receiver
> if a signal has broken squelch.
>
> thanks
> Doug Toppin
> uunet!melpar!toppin

You are right. There isn't any. The usual way this is done is to wire something up to the squelch relay output (recorder control). It might be possible on some applications to use the audio out with appropriate circuitry but I agree the lack of ability to request squelch status is unfortunate.

---

lrk@k5qwb.UUCP lrk%k5qwb@kf5iw.UUCP

73,   utacfd.utarl.edu!letni!rwsys!kf5iw!k5qwb!lrk
Lyn Kennedy   K5QWB @ N5LDD.#NTX.TX.US
                 P.O. Box 5133, Ovilla, TX, USA 75154

-------- "We have met the enemy and they are us." Pogo -----------------

----

End of Info-Hams Digest
****